

AMENDMENT TO THE CLAIMS:

Claims 1-34 (Cancelled)

35. (New) A device for abrasive machining of surfaces of components, comprising:
a tool having an inlet and an outlet;

a supply unit for conveying to the inlet a liquid in which abrasive agents are dissolved and which emerges from the outlet, wherein the cross-sectional area of the inlet is smaller than that of the outlet;

a positioning means which is construed to position said tool in such manner that the outlet faces the surface to be machined and that an area of an annular gap defined by boundary walls of the outlet and the surface to be machined is smaller than a cross-sectional area of the inlet, the positioning means being part of the device; and

means for setting a processing pressure without changing the pressure under which the supply unit conveys the liquid, the means for setting the processing pressure being formed by the positioning means.

36. (New) The device according to claim 35, wherein the cross-sectional area of the inlet is greater by a factor of at least 5 than the cross-sectional area of the formed annular gap.

37. (New) The device according to claim 35, wherein a height of the formed annular gap is smaller than 3 mm and preferably is about 1 mm.

38. (New) The device according to claim 35, wherein a rotary unit is provided for rotating a component to be machined around an axis.

39. (New) The device according to claim 35, wherein the outlet has a circular cross-section, and the tool has a cylindrical outer contour at least in the region of the outlet.

40. (New) The device according to claim 35, wherein the means for setting the processing pressure are further construed for guiding the tool across a surface to be machined.

41. (New) The device according to claim 35, wherein for machining plane surfaces, an outer diameter of the tool in a region of the outlet is conformed to one half of an aperture of an optical component.

42. (New) The device according to claim 35, wherein for machining curved surfaces, an outer diameter of the tool is conformed to a smallest radius of the surface.

43. (New) The device according to claim 35, wherein the means for setting the processing pressure includes a control unit for controlling a positioning of the tool according to surface data of a surface to be produced.

44. (New) A device for abrasive machining of surfaces of components, comprising:
a tool having an inlet and an outlet;

a supply unit for conveying to the inlet a liquid in which abrasive agents are dissolved and which emerges from the outlet; and

a positioning means as part of the device which is construed:

to position said tool in such manner that the outlet faces the surface to be machined; and

to adjust the height of the annular gap defined by boundary walls of the outlet and the surface to be machined without changing the pressure under which the supply unit

conveys the liquid, such that the area of the annular gap is smaller than the cross-sectional area of the inlet.

45. (New) The device according to claim 44, wherein the positioning means guides the tool across a surface to be machined.

46. (New) The device according to claim 44, wherein a height of the formed annular gap is smaller than 3 mm and preferably is about 1 mm.

47. (New) The device according to claim 44, wherein a rotary unit is provided for rotating a component to be machined around an axis.

48. (New) The device according to claim 44, wherein the outlet has a circular cross-section, and the tool has a cylindrical outer contour at least in the region of the outlet.

49. (New) The device according to claim 44, wherein the cross-sectional area of the inlet is smaller than that of the outlet.

50. (New) The device according to claim 44, wherein for machining plane surfaces, an outer diameter of the tool in a region of the outlet is conformed to one half of an aperture of an optical component.

51. (New) The device according to claim 44, wherein for machining curved surfaces, an outer diameter of the tool is conformed to a smallest radius of the surface.

52. (New) The device according to claim 44, wherein the positioning means comprises a control unit for controlling a positioning of the tool according to surface data of a surface to be produced.

53. (New) The device according to claim 44, wherein the supply unit conveys the liquid under a pressure smaller than 5 bar.

54. (New) The device according to claim 44, wherein the supply unit conveys the liquid under a pressure smaller than 20 bar.

55. (New) The device according to claim 44, wherein the cross-sectional area of the inlet is greater by a factor of at least 5 than the cross-sectional area of the formed annular gap.